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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,692	06/18/2001	Gene R. Jackson	P4136-DIV	6542

7590 12/13/2002  
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P O Box 20338  
Boulder, CO 80308-3338

EXAMINER

PARSA, JAFAR F

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 12/13/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
**09/887,692**

Applicant(s)  
**Jackson et al**

Examiner  
**J. Parsa**

Art Unit  
**1621**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Sep 30, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3, 4, and 7-10 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 4, and 7-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. The amendment filed on September 30, 2002 has been entered. Claims 3, 4 and 7-10 are pending.
2. The rejection of claims 3, 4 under 35 U.S.C. 102 (b) as being anticipated by Boakye et al (American Chemical Society, Div. Fuel Chem. (1992), 37 (1), 298-305). is maintained for reasons of record in paper No. 5.
3. Applicant's arguments filed on September 30, 2002 have been fully considered but they are not persuasive.

In response to applicant's argument that claim 3 is for Group VI transitional metal catalysts for use in producing mixed alcohol from gases including carbon monoxide and hydrogen, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Applicants state that Boakye teaches a nanosized molybdenum sulfide, whereas claim 3 is directed to Group VI transitional metal catalyst. The Examiner notes that applicants' claimed 4 is also directed to nanosized sulfided metal catalyst. That means the catalyst first is present in its original form, then the addition of sulfur or other source of sulfur containing compounds makes the molybdenum sulfide.

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***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 3, 4 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boakye et al (American Chemical Society, Div. Fuel Chem. (1992), 37 (1), 298-305) in view of Pirzada et al (USPN 5,851,507).

Applicants' claimed invention is directed to nanosized Group VI transitional metal catalysts for use in producing mixed alcohols from gases including carbon monoxide and hydrogen, wherein said nanosized Group VI transitional metal catalyst are produced by selecting Group VI metals,

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and mixtures thereof, and then nanosizing said Group VI metals, and mixtures thereof to a mean particle diameter in the range of about 1 nm to about 100 nm.

Boakye discloses a nanosized molybdenum sulfide catalyst using microemulsion systems (see page 299, 3rd paragraph).

Boakye does not disclose the mean particle diameter of the nanosized Group VI transitional metal catalysts. However, Pirzada teaches a process for producing nanosized powder such as Tungsten oxide and molybdenum oxide to obtain a mean particle diameter of about 16.1 nm (see Example 4 and 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a nanosized Group VI transitional metal having an optimum particle size diameter, in order to increase the catalytic activity of the nanosized Group VI transitional metal catalysts by increasing the surface area of the nanosized Group VI transitional metal catalysts.


5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

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1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication from the examiner should be directed to J. Parsa whose telephone number is (703)308-4615. The Examiner's normal tour of duty is Monday-Friday from 8:00 a.m. to 4:30 p.m. If Examiner is not at his desk, please leave a message for a return call. He will call back as soon as possible. Any inquiry of a general nature or relating to the status of this application should be directed to Group 1600 receptionist whose telephone number is (703)308-1235. The Examiner's supervisor, Gary Geist, may be reached at (703)308-1701. Communications may now be transmitted via FAX directly to group 1600. The official group 1600 FAX machine number is (703)308-4556.

  
J. PARSA  
PRIMARY EXAMINER  
12/11/02